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sixty Upanishads most of which have never been translated before while none of the Upanishads with which we are familiar through former translations have been omitted. The introductory notes to each Upanishad have the advantage of conciseness and the translations themselves are at once clear and dignified. κρς.

INFALLIBLE LOGIC. A Visible and Automatic System of Reasoning. By *Thomas D. Hawley*, of the Chicago Bar. Lansing, Mich.: Robt. Smith Printing Co. Pages, 659.

This is a book of rising six hundred pages, bound in sheep, prepared "for the use of lawyers, ministers, teachers, and for every one who is interested in the *art* (italics ours) of reasoning."

The logic on behalf of which the author of this book has been moved to take the rôle of an expositor is a system of dealings with terms and their negatives respectively. The terms of any set of premises and their negatives are to be combined in every possible way; then the combinations are to be examined and all those rejected that are inconsistent with any one of the premises. The remaining combinations are to be regarded as so many conclusions.

As a convenience for this process the author has invented his Reasoning Frame a system of rectangular diagrams rectangularly divided after the fashion of a multiplication table.

The author tells us that his method was discovered by him in March 1895, less than two years before the publication of his work.

The work is unlike, and yet like, the logic-books of the prevailing style, that is to say, such as are written by that school of logicians who while writing voluminously upon logic, ever and anon will fall to inquiring of one another, What is it anyway that we are writing about? There are no doubt many of such that will think and speak of this work disparagingly. Any respectable logic, they will say, ought to have its doctrine of terms, its doctrine of propositions, Aristotelian (with its paralogsms) or Thompsonian, its system of syllogisms and its discourse on fallacies, but here is a book that pretends to grind out conclusions by a mere mechanical process. Of course it must be a book that has usurped its title.

Let them then show wherein their own treatises have a better right to the title of Logic and wherein the same are more useful or more promising than is this one. It has been said, "If one were to inspect a fair proportion of the more extensive recent works on Logic, the conclusions drawn would have to be that, while the matters treated show a slight similarity, the diversity is so great that it would be impossible to select by comparison and criticism any certain body of theorems and methods and assign to them the title of Logic. Looking at the chaotic state of logical text-books, one would be inclined to say that there does not exist anywhere a recognised currently received body of speculations to which the title of logic can be unambiguously assigned."

If this be true the title of this book is no more a usurpation than are the titles of most of the other logic-books.

Logic should mean the *science* of reasoning, that is to say, there is occasion, opportunity, and much good material for a just and adequate account of and report upon that mental operation that is called reasoning. If such a science were not called logic what then would be an apt name for it?

Such a science would have for its leading trait a well-conceived doctrine of what reasoning consists in. It would give an illuminating account of that important operation and would show how and by what warrant it is that we pass from one or more premises to our conclusions. It would not depend upon a judiciously selected array of "elegant extracts" as a plausible means to give it a tenure to which it was not justly entitled, but would scorn to invite any esteem that any the most unsparing competent criticism could take from it.

It would not remain content and conceited in a development arrested at the puerile stage, but would after being well conceived, well delivered, and well formed through its early history show a health, vigor, and growing nature that would promise a maturity fit to explain the reasonings of mature minds.

If we stop and go no farther it is no explanation of any consequence to be shown how we are reasoning soundly when we infer that we shall die because all men die. Such inferences as examples of the *rudiments* of reasoning are of importance, but as examples of reasoning in its general scope they are precisely on a par with the arithmetical theorem that two and two make four. Jones, a statesman, wishes to get Smith, another statesman, to support his measure. Smith is under great obligations to Robinson, and Robinson is very friendly to Jones. So Jones reasons thus: I can persuade Robinson, and Robinson can command Smith, *ergo* I can control Smith. This is a type of reasoning not less demonstrative in its nature than simple syllogism and used a thousand times more frequently. And yet the ordinary logic-books have not a word to say in explanation of it.

Such a science as the one we have specified would also be a fund of diversified information relating to the various *arts* of reasoning. For while the science of reasoning is in its nature single, the *arts* of reasoning are various. Any *art* of reasoning depends largely for its features and merits upon the medium it sees fit to take or invent. We do our reasoning in and about accounts and many other things by means of the Arabic digits, the Indian cipher, and the arithmetical algorism pertaining thereto. If we tried to perform the same reasonings by means of the Roman or the Greek arithmetical notation or by means of the syllogistic figures and moods we should very soon find out how important a rôle is played in such kinds of inference by the mere medium employed. In like manner, so it is with a large range of other reasonings for which that medium called algebra has been invented. We ought to see even in the case of arithmetic that what we really do is first to translate our problem from ordinary language into another language, viz., arithmetic, then perform our reasoning in and by arithmetic until we reach our conclusion and

finally we translate our conclusion back into ordinary language. But arithmetic has become so engrafted into, or rather upon, ordinary language that the fact that we really use a medium for our reasoning, materially different from ordinary language is not readily perceived. It is, however, plain enough to be seen when algebra is used. The fact that algebra and arithmetic are only fit for certain limited ranges of reasoning is a circumstance of no moment whatever to the philosophy of the subject.

Ordinary logic-books labor under the tacit assumption that ordinary language is the only medium available for any general art of reasoning. It seems never to have occurred to any of the authors of such books that it would be worth while to inquire and find out whether it would not be possible to elaborate a medium for reasoning in general, analogous to algebra and such, that as in algebra we could translate our premises into the language of that medium, perform with advantage our reasonings to conclusions in that medium and then translate our conclusions back again into ordinary language. Quite contrariwise, the authors of ordinary logic-books of recent delivery while aware in a general way that divers and sundry persons have severally and actually worked out and submitted for approval each his own scheme and example for such a medium, have never paid to such schemes and examples any sort of competent attention preferring to assume an innuendal logical omniscience and follow the beaten track of pretentious inconsequence.

Those, however, who have thought it worth while to prosecute the inquiry above mentioned have found out that there is not one single art, but many arts of reasoning, and that of the various arts of reasoning possible, it is quite a question which one, if any single one, would on the whole prove to be the best fitted for reasoning in general. They see also that it may turn out that one *art* and the medium and algorism appropriate to the same will prove best adapted for one range of inferences, while another art and its medium and algorism will prove best for another range.

By inquiring into the various *arts* of reasoning, their media and algorisms respectively, there ensues an access of information regarding reasoning in general, so that it can be seen that a genuine *science* of reasoning can reasonably be expected after a due measure of such study. Hence the book under review is well worthy of attention and study.

FRANCIS C. RUSSELL.

THE PSYCHOLOGY OF SUGGESTION. A Research into the Subconscious Nature of Man and Society. By *Boris Sidis*, M. A., Ph. D., Associate in Psychology at the Pathological Institute of the New York State Hospital. With an Introduction by *Prof. William James*, of Harvard University. New York: D. Appleton & Co. 1898. Pages, x, 386.

The indorsement by so high an authority on psychological subjects as Professor James will be sure to attract attention to this work, although it makes no reference to the phenomena of so-called Spiritualism with which his name is sometimes